

CLAIM OF PRIORITY

This application claims priority from Japanese
Patent Application Nos. 2004-173010 filed on June 10,
2004 and 2004-173013 filed on June 10, 2004, the entire
5 contents of which are hereby incorporated by reference
herein.

CLAIMS

1. An imaging apparatus that images a subject image and stores the subject image on a storage medium, wherein the imaging apparatus selectively images a
5 generic image to be retrieved and a key image to be used as a retrieval key of the image retrieval.
2. The imaging apparatus according to claim 1, wherein the imaging apparatus uses a pressing operation
10 for a shutter button in both imaging of a generic image and imaging of a key image.
3. The imaging apparatus according to claim 1, wherein a key image is imaged by pressing a shutter
15 button and a retrieval button simultaneously.
4. The imaging apparatus according to claim 1, wherein a key image is imaged by performing imaging in
20 a mode other than an imaging mode.
5. An imaging apparatus that images a subject image and stores the subject image on a storage medium, wherein a retrieval operation using a key image is started with imaging of the key image as a trigger.
25
6. The imaging apparatus according to claim 5, wherein, after a key image is imaged by pressing a

shutter button and a retrieval button simultaneously, a retrieval operation using the imaged key image is started.

5 7. The imaging apparatus according to claim 5, wherein, after a key image is imaged by performing imaging in a mode other than an imaging mode, a retrieval operation using the imaged key image is started.

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8. An imaging apparatus that images a subject image and stores the subject image on a storage medium, wherein a generic image to be retrieved is stored on the storage medium and a key image to be used as a
15 retrieval key of the image retrieval is stored on the identical storage medium.

9. The imaging apparatus according to claim 8, wherein a storing area for the generic image and a
20 storing area for the key image in the storage medium are separated.

10. The imaging apparatus according to claim 8, wherein information different from file management
25 information for the generic image is attached to file management information for the key image.

11. The imaging apparatus according to claim 8,
wherein, in storing the key image on the storage medium,
the key image is stored after compression or
curtailment of imaged subject image data is performed.

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12. The imaging apparatus according to claim 8,
wherein the key image stored on the storage medium is
copied, changed, or linked to the generic image.

10 13. The imaging apparatus according to claim 8,
wherein the generic image stored on the storage medium
is copied, changed, or linked to the key image.

14. An imaging apparatus that images a subject image
15 and stores the subject image on a storage medium,
wherein an image stored on the storage medium is a
generic image to be retrieved and can also be used as
a key image to be used as a retrieval key of the image
retrieval.

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15. The imaging apparatus according to claim 14,
wherein special information is attached to file
management information for the image that is a generic
image and is also used as a key image.

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16. The imaging apparatus according to any one of
claims 8 to 15, wherein an image to be used as a key

image can be imaged directly.

17. The imaging apparatus according to any one of
claims 8 to 16, wherein the imaging apparatus has a
5 retrieval button other than a shutter button.

18. An imaging apparatus that images a subject image
and stores the subject image on a storage medium,
wherein the imaging apparatus specifies and reads out
10 an arbitrary image in the storage medium to thereby use
the image as a key image.

19. The imaging apparatus according to claim 18,
wherein the imaging apparatus stores the image
15 specified as the key image on the storage medium as a
key image.

20. An imaging apparatus that images a subject image
and stores the subject image on a storage medium,
20 wherein a user designates an image specified as a key
image or an image appearing from a retrieval result and
presses a retrieval button to thereby execute retrieval
again with the image as a key image.

25 21. An imaging apparatus that images a subject image
and stores the subject image on a storage medium,
wherein an imaging operation for an image or a

reproduction operation for an image is possible even during a retrieval operation.

22. An imaging apparatus that images a subject image
5 and stores the subject image on a storage medium,
wherein, when the imaging apparatus is in a mode other
than an imaging mode, the imaging apparatus is always
in a state in which an arbitrary key image is selected
as a retrieval key.

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23. The imaging apparatus according to claim 22,
wherein the key image selected as a retrieval key is a
key image obtained latest or earliest.

15 24. An imaging apparatus that images a subject image
and stores the subject image on a storage medium,
wherein, in selecting a key image as a retrieval key,
the imaging apparatus displays images in order of time
or order of file names.

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25. A control program product for causing the imaging
apparatus according to any one of claims 1 to 24 to
operate.

25 26. An imaging apparatus, comprising:
an imaging unit that acquires generic image data
to be retrieved or key image data to be used as

retrieval key by imaging an image of a subject;

a storage medium that stores the imaged generic image data; and

a retrieving unit that retrieves generic image
5 data, which has a predetermined relation with the key image data, out of the generic image data stored in the storage medium, wherein

the imaging apparatus further comprises an
operating unit that inputs a first operation input in
10 acquiring the generic image data and a second operation input in acquiring the key image data in different operation forms.

27. The imaging apparatus according to claim 26,
15 wherein the operating unit includes a shutter button that is used for the first operation input and the second operation input.

28. The imaging apparatus according to claim 27,
20 wherein the operating unit includes another button that is operated together with the shutter button to thereby input the second operation input.

29. The imaging apparatus according to claim 27,
25 wherein

the operating unit includes a mode selecting unit for switching an imaging mode for imaging a generic

image and another operation mode different from the imaging mode, and

the second operation input for acquiring the key image data is inputted in the another operation mode.

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30. An imaging apparatus that images a subject image and stores the subject image on a storage medium, comprising:

an imaging unit that performs imaging processing
10 for key image data to be used as retrieval key; and

a retrieving unit that retrieves generic image data, which has a predetermined relation with the key image data, out of generic image data stored in the storage medium, wherein

15 the retrieving unit executes retrieval processing using the key image data with completion of imaging processing for the key image data by the imaging unit as a trigger.

20 31. The imaging apparatus according to any one of claims 26 to 30, further comprising a storage control unit that stores the key image data and the generic image data in an identical storage medium in expressions distinguishable from each other.

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32. The imaging apparatus according to claim 31, wherein the storage control unit stores the generic

image data in a first storing area of the storage medium and stores the key image data in a second storing area of the storage medium.

5 33. The imaging apparatus according to claim 31,
wherein the storage control unit stores file management
information of the key image data in the storage medium
with identification information, which indicates that
the key image data is different from the generic image
10 data, attached to the file management information.

34. The imaging apparatus according to claim 31,
wherein the storage control unit makes it possible to
use the key image data also as the generic image data
15 by copying the key image data stored in the storage
medium, changing file management information or a
storing area of the key image data, or creating link
data of the key image data.

20 35. The imaging apparatus according to claim 31,
wherein the storage control unit makes it possible to
use the generic image data also as the key image data
by copying the generic image data stored in the storage
medium, changing file management information or a
25 storing area of the generic image data, or creating
link data of the generic image data.

36. The imaging apparatus according to claim 26,
further comprising a selecting unit that, when the
storage medium is a detachably replaceable storage
medium and includes image data stored in other
5 apparatuses, selects at least one of the image data
stored in the storage medium as key image data.

37. The imaging apparatus according to claim 36,
further comprising a storage control unit that creates
10 the key image data from the image data selected by the
selecting unit and stores the key image data on the
storage medium.

38. An imaging apparatus that images a subject image
15 and stores the subject image on a storage medium,
comprising:

a retrieving unit that retrieves generic image
data, which has a predetermined relation with a key
image data, out of generic image data stored in the
20 storage medium; and

a selecting unit that selects the generic image
data retrieved by the retrieving unit as new key image
data, wherein

the retrieving unit executes retrieval processing
25 again on the basis of the new key image data.

39. The imaging apparatus according to claim 36,

further comprising:

a sorting unit that, when the selecting unit selects the key image data, sorts plural generic image data stored in the storage medium on the basis of acquisition time or file names thereof; and

a display unit that displays the plural generic image data in an order of the sort.

40. An imaging apparatus that images a subject image and stores the subject image on a storage medium, comprising:

an imaging unit that images generic image data to be retrieved; and

a retrieving unit that retrieves generic image data, which has a predetermined relation with key image data, out of generic image data stored in the storage medium, wherein

the imaging apparatus executes access to the storage medium by the imaging unit and access to the storage medium by the retrieving unit according to different controls to thereby allow the imaging unit to image the generic image data in parallel even when retrieval processing is executed in the retrieving unit.

41. An imaging apparatus that images a subject image and stores the subject image on a storage medium, comprising:

a retrieving unit that retrieves generic image data, which has a predetermined relation with key image data, out of generic image data stored in the storage medium; and

5 a reproduction processing unit that reproduces the generic image data stored in the storage medium, wherein

the imaging apparatus executes access to the storage medium by the reproduction processing unit and
10 access to the storage medium by the retrieving unit according to different controls to thereby allow the reproduction processing unit to reproduce the generic image data in parallel even when retrieval processing is executed in the retrieving unit.

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42. An imaging apparatus that images a subject image and stores the subject image on a storage medium, comprising:

an operation mode setting unit that sets an
20 operation mode of the imaging apparatus; and

a retrieving unit that retrieves generic image data, which has a predetermined relation with key image data, out of generic image data stored in the storage medium, wherein

25 when the imaging apparatus is set in an operation mode in which retrieval processing is executable by the retrieving unit, the retrieving unit maintains key

image data designated in advance as a retrieval key.

43. The imaging apparatus according to claim 42,
wherein the key image data maintained as the retrieval
5 key is key image data whose acquisition time is latest
or earliest or which is used immediately before the key
image data is used.

44. An imaging apparatus, comprising:
10 an imaging unit that acquires generic image data
to be retrieved or key image data to be used as
retrieval key by imaging an image of a subject;
a storage medium that stores the imaged generic
image data; and
15 a retrieving unit that retrieves generic image
data, which has a predetermined relation with the key
image data, out of the generic image data stored in the
storage medium, wherein
the imaging apparatus further comprises a storage
20 control unit that stores the key image data imaged by
the imaging unit in the storage medium in an expression
distinguishable from the generic image data.

45. A control program that, when a first operation
25 input in acquiring generic image data is inputted to an
imaging apparatus, which includes:

an imaging unit that acquires generic image data

to be retrieved or key image data to be used as
retrieval key by imaging an image of a subject;

an image storage medium that stores the imaged
generic image data;

5 a retrieving unit that retrieves generic image
data, which has a predetermined relation with the key
image data, out of the generic image data stored in the
image storage medium; and

an operating unit for inputting an operation input,
10 from the operating unit, causes the imaging unit to
acquire the generic image data and store the generic
image data in the storage medium, and

when a second operation input for acquiring the
key image data inputted in an operation form different
15 from the first operation input is inputted to the
imaging apparatus from the operating unit, controls the
imaging unit to acquire the key image data.

46. A control program that causes an imaging apparatus,
20 which includes:

an imaging unit that acquires generic image data
to be retrieved or key image data to be used as
retrieval key by imaging an image of a subject;

an image storage medium that stores the imaged
25 generic image data;

a retrieving unit that retrieves generic image
data, which has a predetermined relation with the key

image data, out of the generic image data stored in the image storage medium; and

an operating unit for inputting an operation input, to store the key image data imaged by the imaging unit
5 in the storage medium in an expression distinguishable from the generic image data.

47. An imaging apparatus comprising:

photoelectric conversion unit that converts
10 reflected light from a subject into an electric signal and outputs the electric signal;

display unit that displays image data of a subject corresponding to the electric signal;

a storage medium that stores plural retrieval
15 object image data;

retrieving unit that retrieves similar image data similar to image data of the subject from the plural retrieval object image data before the image data of the subject is stored in the storage medium; and

20 display control unit that controls the display unit to display the retrieved similar image data and the image data of the subject in expressions visually distinguishable from each other.

25 48. The imaging apparatus according to claim 47, wherein the retrieving unit includes unit that executes image retrieval using preview image data before

photographing processing as image data of the subject.

49. The imaging apparatus according to claim 47,
wherein the retrieving unit includes unit that executes
5 image retrieval using the image data of the subject
immediately after photographing processing is executed
on the image data of the subject.

50. The imaging apparatus according to claim 49,
10 further comprising:

a shutter button for instructing photographing
processing for the subject; and

stop control unit that stops retrieval processing
by the retrieving unit while continuous photographing
15 is instructed by the shutter button.

51. The imaging apparatus according to any one of
claims 47 to 50, further comprising:

selecting unit that selects the similar image data
20 displayed on the display unit; and

deleting unit that deletes the selected similar
image data from the storage medium.

52. The imaging apparatus according to any one of
25 claims 47 to 50, wherein the display control unit
includes emphatic display unit that emphatically
displays parts of the similar image data similar to the

image data of the subject.

53. The imaging apparatus according to any one of claims 47 to 52, wherein the retrieving unit retrieves
5 the similar image data using any one of the image data stored in the storage medium instead of the image data of the subject.

54. The imaging apparatus according to any one of
10 claims 47 to 50, wherein the display control unit causes the display unit to display icon image data representing similarity or a similar characteristic instead of the similar image data.

15 55. The imaging apparatus according to any one of claims 47 to 54, wherein the retrieving unit includes priority retrieving unit that executes retrieval of the similar image data in accordance with priorities based on incidental information such as photographing time,
20 an amount of data, or photographing parameters of the retrieval object image data.

56. The imaging apparatus according to any one of claims 47 to 55, wherein, in displaying the similar
25 image data, the display control unit causes the display unit to display the similar image data in accordance with priorities based on incidental information such as

similarity, photographing time, an amount of data, or photographing parameters for the similar image data.

57. The imaging apparatus according to any one of
5 claims 47 to 56, wherein the display control unit further includes:

unit that designates a number of the similar image data that the display control unit causes the display unit to display simultaneously; and

10 unit that causes the display unit to display the similar image data of the designated number.

58. The imaging apparatus according to any one of
claims 47 to 57, wherein the display control unit
15 further includes:

unit that creates thumbnail data of the similar image data; and

unit that causes the display unit to display the created thumbnail data instead of the similar image
20 data.

59. An imaging apparatus comprising:

photoelectric conversion unit that converts reflected light from a subject into an electric signal
25 and outputs the electric signal;

a storage medium that stores plural retrieval object image data including image data of the subject

corresponding to the electric signal;

retrieving unit that retrieves similar image data of the retrieval object image data similar to data set as key image data;

5 print data creating unit that creates print data for printing the retrieved similar image data and the image data of the subject in forms visually distinguishable from each other; and

transmitting unit that is directly connected to an
10 image printing apparatus for printing the print data and transmits the print data.

60. The imaging apparatus according to claim 59,
further comprising print instructing unit that
15 instructs print object data to be printed out of the plural retrieval object image data, wherein

the retrieving unit uses the print object data as the key image data.

20 61. The imaging apparatus according to claim 59 or 60, wherein the print data creating unit creates the print data such that parts of the similar image data similar to the key image data are emphatically printed.

25 62. The imaging apparatus according to any one of claims 59 to 61, wherein the print data creating unit creates the print data such that icon image data

representing similarity or a similar characteristic is printed instead of the similar image data.

63. The imaging apparatus according to any one of
5 claims 59 to 62, wherein the retrieving unit includes
priority retrieving unit that executes retrieval of the
similar image data in accordance with priorities based
on incidental information such as photographing time,
an amount of data, or photographing parameters of the
10 retrieval object image data.

64. The imaging apparatus according to any one of
claims 59 to 63, wherein, in printing the similar image
data, the print data creating unit creates the print
15 data such that the similar image data is printed in
accordance with priorities based on incidental
information such as similarity, photographing time, an
amount of data, or photographing parameters for the
similar image data.

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65. The imaging apparatus according to any one of
claims 59 to 64, wherein the print data creating unit
further includes:

unit that designates a number of the similar image
25 data that are printed on one print medium; and

unit that creates the print data for the similar
image data of the designated number.

66. The imaging apparatus according to any one of claims 59 to 65, further comprising unit that creates thumbnail data of the similar image data, wherein
5 the print data creating unit creates the print data using the created thumbnail data instead of the similar image data.

67. An imaging apparatus that includes a storage
10 medium that stores retrieval object image data, comprising:

photoelectric conversion unit that converts reflected light from a subject into an electric signal and outputs the electric signal;
15 display unit that displays image data of the subject corresponding to the electric signal as preview; and

retrieving unit that retrieves similar image data similar to the image data of the subject displayed as
20 preview from the retrieval object image data.

68. An imaging apparatus that includes a storage medium that stores retrieval object image data, comprising:

25 photoelectric conversion unit that converts reflected light from a subject into an electric signal and outputs the electric signal;

storage control unit that causes the storage medium to store image data of the subject corresponding to the electric signal; and

retrieving unit that retrieves similar image data
5 similar to the image data of the subject from the storage medium when the storage of the image data of the subject on the storage medium is completed.

69. The imaging apparatus according to claim 68,
10 further comprising:

a shutter button for instructing photographing processing for the subject; and

stop control unit that stops retrieval processing by the retrieving unit while continuous photographing
15 is instructed by the shutter button.

70. A method of controlling an imaging apparatus having a storing unit that stores plural retrieval object image data, comprising:

20 a photoelectric conversion step of converting reflected light from a subject into an electric signal and outputting the electric signal;

a display step of displaying image data of the subject corresponding to the electric signal;

25 a retrieving step of retrieving similar image data similar to the image data of the subject from the plural retrieval object image data before the image

data of the subject is stored in the storing unit; and
a step of displaying the retrieved similar image
data and the image data of the subject in expressions
visually distinguishable from each other.

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71. A method of controlling an imaging apparatus
having a storing unit that stores plural retrieval
object image data, comprising:

a photoelectric conversion step of converting
10 reflected light from a subject into an electric signal
and outputting the electric signal;

a storing step of storing image data of the
subject corresponding to the electric signal in the
storage medium as one of the retrieval object image
15 data;

a retrieving step of retrieving similar image data
of the retrieval object image data similar to data set
as key image data;

a print data creating step of creating print data
20 for printing the retrieved similar image data and the
image data of the subject in forms visually
distinguishable from each other; and

a transmitting step of, when an image printing
apparatus for printing the print data and the imaging
25 apparatus are connected directly, transmitting the
print data to the image printing apparatus.

72. A method of controlling an imaging apparatus including a storage medium that stores retrieval object image data, comprising:

5 a photoelectric conversion step of converting reflected light from a subject into an electric signal and outputting the electric signal;

a display step of displaying image data of the subject corresponding to the electric signal as preview; and

10 a retrieving step of retrieving similar image data similar to the image data of the subject displayed as preview from the storage medium.

73. A method of controlling an imaging apparatus including a storage medium that stores retrieval object image data, comprising:

15 a photoelectric conversion step of converting reflected light from a subject into an electric signal and outputting the electric signal;

20 a step of causing the storage medium to store image data of the subject corresponding to the electric signal; and

a retrieving step of retrieving similar image data similar to the image data of the subject from the storage medium when the storage of the image data of the subject on the storage medium is completed.

25